

method 100 can be performed at the RTMS 10 of FIGS. 1 and 2, and/or other elements of the environment illustrated in FIG. 1. The method 100 can be governed by instructions that are stored in a memory device of the RTMS 10 of FIGS. 1 and 2, and/or other elements of the environment illustrated in FIG. 1, and executed by a hardware processor of the RTMS 10 of FIGS. 1 and 2, and/or other elements of the environment illustrated in FIG. 1.

[0061] At block 102, items, for example, goods 21 are coupled to tags 22, and can be sold to or otherwise acquired by a consumer. The tags 22 may be associated with the items 21 at the time of manufacturing, for example, by a representative of the retail establishment offering the items 21 for sale, or by the customer 15. The tags 22 are constructed and arranged to exchange electronic communication signals with a beacon reader 12, and for including unique identification data that distinguishes the tags 22 from each other. As described herein, each tag 22 can include data, metadata, or the like regarding the items 21 to which the tags 22 are associated, respectively, and can transmit a unique identification when radiated. In particular, the tag 22 has the unique identifier, and an association can be formed, or established, at a time of purchase where the purchase data may be electronically communicated at the time of the e-receipt. In another example, the association could be set by the customer 15 by scanning the QR code and a tag receiver picking up the unique identifier off the tagged item 21.

[0062] At block 104, the tag reader 12 is configured to communicate with the tags 22. The beacon reader 12 can include one or more different beacons, and can be positioned anywhere proximal to the items 21, for example, home, office, automobile, or anywhere the items 21 may be tracked. The reader 12 is configured to be associated with what is being tracked. For example, a reader on the washing machine would track the input of clothes. The input of clothes into the washer would indicate the usage of soap and the wear. Thus, the tag reader 12 can receive tracking data from the tags 22 to determine use-related information and/or movements with respect to the items 21 corresponding to the tags 22.

[0063] At block 106, the beacon reader 12 can connect with a communications network, for example, the Internet. In doing so, the beacon reader 12 can communicate data received from the tags 22 to the RTMS 10 and/or other system that can process the received data.

[0064] At block 108, the tags 22 are registered with a subscription service, for example, for automatic replacement, replenishment, or upgrade services with respect to the consumer goods 21. For each item 21, the RTMS 10 sets a recommendation as to whether the item 21 should be refilled, replenished, replaced, or upgraded. The user may override this setting. The override may be the case where they always want a replacement instead of a refill or upgrade. The subscription service may include tagged IoT devices, for example, described herein, to acquire the necessary upgrade, refill, or replenishment items in accordance with the subscription service. In registering with a subscription service, the tags 22 can be associated with the corresponding items 21.

[0065] The association between tag 22 and item 21 may occur at the time of purchase when the retailer assigns the tag 22 to the item 21. In creating this association, for example, at a point of sale system or other retail electronic device, the product information to which the tag 22 is

associated may information such as expiration date, purchase date, warranty period, and so on. In other embodiments, the consumer 15 may associate the tag 22 with the item 21, for example, set by the user when the tag is first read. The tag reader 12 may communicate the tag 21 to the system 10, which in response may communicate back to the user's interface for authentication or confirmation of the information.

[0066] At block 110, one or more guidelines are set. In some embodiments, the guidelines include TOT replenishment guidelines for the items 22 through the subscription service. Guidelines may be initially set by the manufacturer such as serving sizes, consumption rates, every so many miles of usage, number of switch flips, and so on. From this, the usage may be tracked and a predictive threshold may be computed as to when something should be replaced, refilled, repaired, or upgraded. The replenishment guidelines may be based upon consumer request, for example, an electronic submission of a request. In some embodiments, automatic replenishment is set for items that the customer 15 uses regularly. In some embodiments, the tag 22 can register a remaining product left based on movement. For example, a tag 22 may transmit a number which is read by one or more readers 121. The RTMS 10 registers the movement of tags 22 when the tags 22 are picked up by different readers 12. The movement of tags 22 may be assumed as usage of the items to which the tags 22 are attached. For example, when clothes are thrown into the washer their tags are read by the tag reader on the washer indicating usage of clothes, which computes to be a serving of laundry detergent, fabric softener, and so on. It also indicates the wearing of the clothes which will wear out and need to be replaced. Movement of a tagged item 21 can be tracked by a triangulation between beacon readers 12 and the tag 22.

[0067] A tag 22 may move with the corresponding item 21 many times. In some embodiments, a predetermined threshold number of movements may be established, and configured and stored at the tag tracking device 34 or pattern analyzer 40. Here, the order processor 36 can automatically order a quantity of the item 21, for example, for replenishment, when the pattern analyzer 40 establishes that the actual number of movements of the item is at or exceeds the threshold value. Similarly, the pattern analyzer 40 can calculate use of the item 21 in a predicted consumption or pre-failure determination analysis, for example, when estimating an end-of-life of the item 21 due to wear and tear, life expectancy, and so on. The notification generator 44 can generate an order preview which can be sent to the user 15. This may ensure that the item 22 is not automatically ordered for moving about but not used.

[0068] Another guideline may relate to item tracking guidelines. Tagged items 21 can be tracked by a tag signal via the beacon reader 12 so that the tag 22 is in communication with the beacon reader 12. Once the tag 22 is proximal the beacon reader 12, for example, sufficiently close to the beacon reader 12 so that a communication exchange can occur, the beacon reader 12 can register where and when the tag 22 is at the point where the beacon reader 12 establishes a communication with the tag 22. Here, tag data can be output via the Internet or other network in communication with the beacon reader 12 to the RTMS 10, where the data can be stored at the database 42. Once the RTMS 10 receives this data, the RTMS 10 can notify the customer 15 if the tag 22 moves outside a predetermined